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BEFORE THE ARIZONA CORPORATION COMMISSION

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Commissioner
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Commissioner

Arizona Corporation Commission

DOCKETED

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IN THE MATTER OF THE COMMISSION'S
FIFTH BIENNIAL TRANSMISSION
ASSESSMENT ("BTA"), PURSUANT TO
THE ADEQUACY OF EXISTING AND
PLANNED TRANSMISSION FACILITIES
TO MEET ARIZONA'S ENERGY NEEDS
IN A RELIABLE MANNER

DOCKET NO. E-00000D-07-0376

DECISION NO. 70635ORDER

Open Meeting
December 3, 2008
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

1. The Utilities Division Staff ("Staff") of the Arizona Corporation Commission ("Commission") and its consultant, K.R. Saline and Associates, PLC ("KRSA"), have completed the fifth biennial assessment of Arizona's existing and planned transmission system. The Fifth Biennial Transmission Assessment, 2008-2017 ("BTA", or "assessment") was filed with the Commission on October 22, 2008. The BTA report was also posted on the Commission website at: <http://www.cc.state.az.us/divisions/utilities/electric/biennial.asp>.

2. The Fifth BTA report represents the professional opinion of Staff and its consultant, KRSA. The BTA is not an evaluation of individual transmission providers' facilities or quality of service. The BTA does not set Commission policy and does not recommend specific action for any individual Arizona transmission provider. It assesses the adequacy of Arizona's transmission system to reliably meet existing and future energy needs of the state.

1 3. Staff held two workshops to gather stakeholders' input. The first workshop was
2 held on May 22-23, 2008 and the second workshop was held on September 18, 2008. The
3 comments and presentations submitted at the workshops, materials filed in the docket and
4 subsequent correspondence have been incorporated into the BTA.

5 4. The ten-year transmission plans and study reports filed by the participants with the
6 Commission are necessary to evaluate the adequacy and reliability of the transmission system.
7 Staff was assisted by KRSA in analyzing the technical reports and documents filed by various
8 organizations. The broad spectrum of information and technical reports assembled and reviewed
9 address transmission assessments from a national, western interconnection, regional, state and
10 local utility perspective.

11 5. The Fifth BTA report addresses the adequacy and reliability of Arizona's existing
12 and planned transmission system and offers conclusions and recommendations for the
13 Commission's consideration and action. Staff concludes in its report that the Arizona utility
14 industry has implemented steps to address the regional transmission planning issues, provide
15 transmission enhancements and additions, develop solutions for transmission import constraints in
16 various load pockets, and address local transmission system inadequacies.

17 These conclusions are based upon the following findings:

- 18 a. The existing and proposed Arizona transmission system meets the load serving
19 requirements of the state in a reliable manner. However, plans for the last five years of
20 the period from 2008- 2017 are less well defined than those in the earlier five years. As
21 such there are system performance issues that occasionally still need attention in the
22 last five years. There is still sufficient time to refine the planned improvements to
23 mitigate those concerns.
- 24 b. The 2008 level of preparedness of the three major utilities in Arizona appears to be
25 high and above the norm. None of the concerns in prior summer preparedness Open
26 Meetings over the past decade were present in 2008. The current electric utility system
27 in Arizona is adequate and, based upon the assumptions contained herein, should meet
28 the energy needs of the State of Arizona in 2008 with reliable service.
- c. The existing and planned transmission systems serving the Phoenix, Santa Cruz
County, Tucson, and Yuma areas are adequate and should reliably meet the local
energy needs of the respective areas through 2017. The adequacy level of the
Mohave County system is unclear due to controverted conclusions reached in multiple
publicly available study reports.

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- d. Santa Cruz County and Cochise County are served by radial transmission lines. Growing numbers of customers are, therefore, exposed to extended service interruptions following the loss of a single transmission line in these two counties. The ability of the two area service providers to restore service to customers within a reasonable period of time following a transmission line outage has been a long standing concern of the Commission. Transmission improvements that assure "continuity of service" for loss of a single transmission line is a public policy that should be adopted by the service providers to replace the "restoration of service" practice present in these two counties.
 - e. The Fourth BTA documented that N-1 contingency violations occurred for loss of the Apache to Butterfield 230 kV line, the Butterfield to San Rafael 230 kV line, or the Pantano to Kartchner 115 kV line, as reflected in the Southwest Transmission Cooperative ("SWTC") 2015 planning study. The Commission granted SWTC a time extension until January 2008 to resolve these three Cochise County N-1 contingency violations and to file expansion plans that resolve the issues as part of its 2008-2017 ten year plan. SWTC's ten year plan contains a proposal to resolve the issues. Staff concludes this proposed new line is not an adequate transmission solution for the N-1 contingencies because it perpetuates radial transmission service and "restoration of service" practices in Cochise County through at least 2026.
 - f. All Commission required studies have been filed. Arizona Public Service ("APS") and Tucson Electric Power ("TEP") filed Reliability Must Run ("RMR") studies. Salt River Project ("SRP") filed Southwest Arizona Transmission Study Group ("SWAT") studies that address N-1-1 contingencies and extreme contingency study requirements. SRP filed the Study of Pinal County and the SWAT Renewable Transmission Task Force ("Task Force") Report. APS filed a supplemental SWAT Task Force Report to address Staff's concerns. SWTC and TEP have also responded to the requirement that they file transmission plans and analyses addressing specific deficiencies described in the Fourth BTA.
 - g. In general the RMR studies show that each RMR area will have sufficient maximum load serving capability to reliably serve the respective area's load during the next ten year period. The RMR studies also indicate local RMR generation will not be dispatched out of merit order for significant hours or yield RMR costs sufficient to warrant advancing transmission improvements.
 - h. A Ten Year Snap Shot Study, and N-1-1 Study, and Extreme Contingency Study were performed by the Central Arizona Transmission System ("CATS") Extra High Voltage ("EHV") study group. TEP also modeled corridor outages and extreme contingencies in its RMR studies. The filed studies were thorough and well documented. The studies comport with the study effort outlined by Staff. These studies generally indicated that the Arizona utilities' ten year plans are sufficiently robust to provide adequate and reliable service to Arizona customers.
 - i. The Task Force Report was filed for this BTA in compliance with the fourth BTA Order. (Decision No.69389) A supplement to the original report was filed on August

1 6, 2008, in response to the BTA Workshop I request. The original report, the
2 supplement, and the associated BTA Workshop I presentation document the
3 stakeholder process that the Task Force utilized to assemble an industry perspective
4 regarding the renewable energy development potential in Arizona. The industry's
5 response comports with the Commission's Order in the Fourth BTA.

- 6 j. TEP addressed the Fourth BTA's Finding of Fact 6(d) that the "Tucson area RMR
7 requirements could be eliminated and the load area have open access to lower cost
8 resources from the outside market if incremental upgrades are justified."
- 9 k. SWTC filed a ten year plan with a proposed improvement that resolved contingency
10 violations that were reflected in its 2015 planning study.
- 11 l. Six major EHV transmission projects are proposed and have been addressed in this
12 Fifth BTA. Individually and collectively these projects will improve the opportunity
13 for interstate commerce in power transfers: TransWest Express Project, High Plains
14 Express Project, SunZia Project, Diné Power Authority Project, Palo Verde to Devers
15 No. 2 Project and the Palo Verde to North Gila No. 2 Project.
- 16 m. Ongoing planned upgrades to existing EHV facilities will increase the transmission
17 system capability to support increased interstate power transfers and provide reliable
18 transfers within the state of Arizona.
- 19 n. The Seams Issues Subcommittee ("SIS") report finds no specific seams issues that are
20 created by California's Market Redesign and Technology Upgrade ("MRTU") or
21 existing seams issues that are substantially worsened by MRTU implementation.
22 Seams issues exist today, particularly between organized markets such as the
23 California Independent System Operator ("CAISO") and bilateral physical markets that
24 dominate the Western Interconnection. The SIS will continue to monitor, evaluate and
25 propose solutions to all regional seams issues.
- 26 o. This is the first BTA to address planned transmission facilities resulting from the
27 studies performed by the Southeast Arizona Transmission Study ("SATS")
28 Subcommittee. The transmission facilities studied are reflected in the SWTC and TEP
ten year plans. The planned in-service dates for SWTC and TEP projects contemplated
within the ten year planning cycle should be identified in order for proper modeling in
future power flow base cases.
- p. Planning of local transmission improvements (115 kV through 230 kV) has
traditionally been left to the respective transmission providers. As a result of sub
regional collaboration such as that resulting in SATS, and the mandates of the Federal
Energy Regulatory Commission ("FERC") Order 890, new local transmission planning
processes are emerging that are open to stakeholders' participation.
- q. The Colorado River Transmission ("CRT") Subcommittee is engaged in its first formal
study as a SWAT Subcommittee. The study is evaluating the Harcuvar Project
interconnection with the Palo Verde to Devers No. 2 500 kV line. It would be helpful
if CRT also addressed the local High Voltage ("HV") needs of Mohave County and

Yuma County in conjunction with the EHV transmission interfaces between Arizona, Nevada, and California.

RECOMMENDATIONS

Staff recommends that the Commission:

1. Continue to support use of:

- a. "Guiding Principles for ACC Staff Determination of Electric System Adequacy and Reliability" to aid Staff in its determination of adequacy and reliability of power plant and transmission line projects,
- b. North American Electric Reliability Corporation ("NERC") and Western Electricity Coordinating Council ("WECC") criteria and FERC policies regarding the transmission system reliability, and,
- c. Collaborative study activities between transmission providers and merchant plant developers for the purpose of:
 - i. Ensuring consumer benefits of generation additions and cost effective transmission enhancements and interconnections, and
 - ii. Facilitating restructuring of the electric utility industry to reliably serve Arizona consumers at just and reasonable rates via competitive wholesale markets.

2. Accept the results of the following studies provided as a part of the Fifth BTA filings:

- a. Compliance with single contingency criteria overlapped with the bulk power system facilities maintenance (N-1-1) criteria for the first year of the analysis period as required by WECC and NERC.
- b. Extreme contingency outages studied for Arizona's major generation hubs and major transmission stations and associated risks and consequences documented if mitigating infrastructure improvements are not planned.

3. Continue to support the policy that generation interconnections should be granted a Certificate of Environmental Compatibility ("CEC") by the Commission only when they meet regional and national reliability criteria and the requirements of Commission decisions.

4. Enter the following orders:

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- a. Arizona transmission providers shall explore formation of sub regional planning forums that assume the responsibility of addressing the local HV and EHV transmission import and RMR conditions in Mohave County and Yuma County. Such study forums shall be compatible with and supportive of FERC Order 890 local transmission provider planning obligations.
- b. APS shall file a Yuma County RMR study report with the next BTA that continues to incorporate the plans of all entities proposing to interconnect and do business in Yuma County.
- c. UNSE and Mohave Electric Cooperative ("MEC") shall collaborate with other stakeholders and UNSE shall file a Mohave County RMR study report with the next BTA that includes the impacts, influences, and system performance of all proposed local HV and EHV transmission improvements and potential generation interconnections occurring in the area. MEC shall provide all necessary MEC system data to UNSE to perform the RMR study.
- d. Commission regulated electric utilities shall file the SWAT Renewable Transmission Task Force transmission study report and the WestConnect Long Range Planning Study report within 30 days of their respective completion dates in order to supplement the renewable transmission assessments filed with this BTA.
- e. Commission regulated utilities shall continue to perform RMR studies in accordance with the methodology set forth in Appendix C to this Fifth BTA, and shall file such studies with ten year plans for even numbered years for inclusion in future BTA reports
- f. The SATS long range study is envisioned to be completed in 2008. This study is predominantly shaping the ten year plans filed with the Commission for SWTC and TEP. TEP shall file the SATS long range study on behalf of all SATS participants by January 2009.
- g. TEP and SWTC shall resolve all "to be determined" ("TBD") in-service dates for facilities envisioned to be constructed within the next ten years. The ten year plans filed by TEP and SWTC in January 2009 shall incorporate such resolved in-service dates. Plans that fall beyond the ten year horizon may be included in subsequent ten year plan filings but shall be identified as not occurring within the ten year horizon, if a TBD date designation is used.
- h. UNSE shall perform studies and shall file a report of those studies for the next BTA that establishes a long range system plan for Santa Cruz County that is founded on the principle of continuity of service following a transmission line outage. Elements of that system plan shall be incorporated in the UNSE ten year plan with a defined in-service date and shall be filed with the Commission in January 2009.

OTHER

Possible approaches to be considered could include a multi-phase approach that starts with an “open season” solicitation of confidential letters of intent to bid on renewable Requests for Proposals. These letters would identify the exact location of the proposed project, the technology proposed and the project output. Then, based on the results of the “open season,” the utility or multiple utilities would identify sub-regions or areas where a critical mass of proposed projects is likely to be built. Based on this information, a utility or utilities could commence a formal Request for Proposals for a specific sub-region and select one or more renewable projects needing transmission in that sub-region.

1 Each utility would, as a result of this process, identify the top three potential renewable
2 transmission projects in its service territory. Each utility, either alone or in cooperation with other
3 interested utilities, would develop plans to identify future renewable transmission projects and
4 develop plans and propose funding mechanisms to construct the top three renewable transmission
5 projects. Those projects could include joint projects in other service territories.

6 CONCLUSIONS OF LAW

7 1. According to A.R.S. § 40-360.02.A, "Every person contemplating construction of
8 any transmission line within the state during any ten year period shall file a ten year plan with the
9 Commission on or before January 31 of each year."

10 2. According to A.R.S. §40-360.02.G, "The plans shall be reviewed biennially by the
11 Commission and the Commission shall issue a written decision regarding the adequacy of the
12 existing and planned transmission facilities in this state to meet the present and future energy
13 needs of this state in a reliable manner."

14 3. The Commission, having reviewed the Fifth Biennial Transmission Assessment
15 2008-2017, concludes that the assessment complies with A.R.S. §40-360.02.

16 ORDER

17 THEREFORE, IT IS ORDERED that the Fifth Biennial Transmission Assessment 2008 -
18 2017 is hereby issued as the Commission's biennial assessment in accordance with A.R.S. §40-
19 360.02.G.

20 IT IS FURTHER ORDERED that Commission-regulated electric utilities shall, by
21 April 30, 2009, conduct a joint workshop or series of planning meetings to develop ways in which
22 new transmission projects can be identified, approved for construction, and financed in a manner
23 that will support the growth of renewables in Arizona.

24 IT IS FURTHER ORDERED that the Commission-regulated electric utilities shall take the
25 results of the Arizona Renewable Transmission Task Force and the SWAT Renewable
26 Transmission Task Force Plans developed for the Fifth Biennial Transmission Assessment and
27 identify the top three potential renewable transmission projects in their respective service
28 territories.

1 IT IS FURTHER ORDERED that each Commission-regulated utility, either alone or in
2 cooperation with other interested utilities, shall develop plans to identify future renewable
3 transmission projects and develop plans and propose funding mechanisms to construct the top
4 three renewable transmission projects. These plans and mechanisms shall be filed with the
5 Commission no later than October 31, 2009 and shall be discussed in the Sixth Biennial
6 Transmission Assessment.

7 IT IS FURTHER ORDERED that Staff recommendations contained herein are hereby
8 adopted by the Commission.

9 IT IS FURTHER ORDERED that this Order shall become effective immediately.

10
11 **BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION**

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13 *Lance S. Sleam*
CHAIRMAN

William P. Mallett
COMMISSIONER

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15
16 *Jeffrey T. Hatch-Miller*
COMMISSIONER

John M. ...
COMMISSIONER

Gary ...
COMMISSIONER

17
18 IN WITNESS WHEREOF, I, BRIAN C. McNEIL, Executive
19 Director of the Arizona Corporation Commission, have
20 hereunto, set my hand and caused the official seal of this
21 Commission to be affixed at the Capitol, in the City of
22 Phoenix, this 11th day of December, 2008.

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25 *Brian C. McNeil*
BRIAN C. McNEIL
EXECUTIVE DIRECTOR

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28 DISSENT: _____

DISSENT: _____

EGJ:PKB:lhmc/CH

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